



2004

**Water Quality Assessment
and
Impaired Waters
Integrated Report**

Virginia Department of Environmental Quality

March 2004



Background

- Clean Water Act and the Virginia Water Quality Monitoring, Information and Restoration Act require state to assess and report on the quality of state waters.
- 2002 - published separate 305(b) Water Quality Assessment reports and 303(d) Reports on Impaired Waters
- 2003 - EPA promoted an integrated (combined) report
- 2004 - Virginia publishes its first Integrated Report

Public Comment

- Public comment period March 22 - April 23, 2004
- Download Integrated Report via DEQ website
 - <http://www.deq.state.va.us/wqa>
 - Maps available at <http://www.gisweb.deq.state.va.us/>
- Hard copies also available on request
- 4 public meetings held around Virginia
- Comments received by first class mail to:
 - Darryl M. Glover, DEQ Water Quality Monitoring and Assessment Manager, P.O. Box 10009, Richmond, Virginia 23240-0009
- and via e-mail attachment to dmglover@deq.state.va.us.

Key Factors For 2004 Assessment

- Assessment Period - January 1998 - December 2002
- EPA 10% Method With Two Or More Exceedences
- EPA Assessment Guidance Adopted In 2003
- EPA Agreed To Establishing Virginia Sub-categories
- Benthic Data In Estuaries Assessed Using New Procedure
 - Developed By Virginia, Maryland, And EPA During 2003
- DEQ Assessment Guidance Adopted February 2004
 - After Two Rounds Of Public Comment
- Lower Health Department Trigger Value For Mercury
 - VDH Fishing Advisories: 6 Mercury; 11 PCBs; 1 Kepone
- Added a Sixth Designated Use - Wildlife Use

2004 Assessed Area

- Total River Miles - 50,537
 - Attaining standards - 6,325
 - Impaired miles - 6,894
- Total Lakes in Acres - 120,751 (adjusted since 2002)
 - Attaining standards - 18,846
 - Impaired acres - 89,896
- Total Estuaries in Square Miles - 2,557
 - Attaining standards - 723
 - Impaired square miles - 1,810
- Rotate watershed stations every two years

Designated Uses

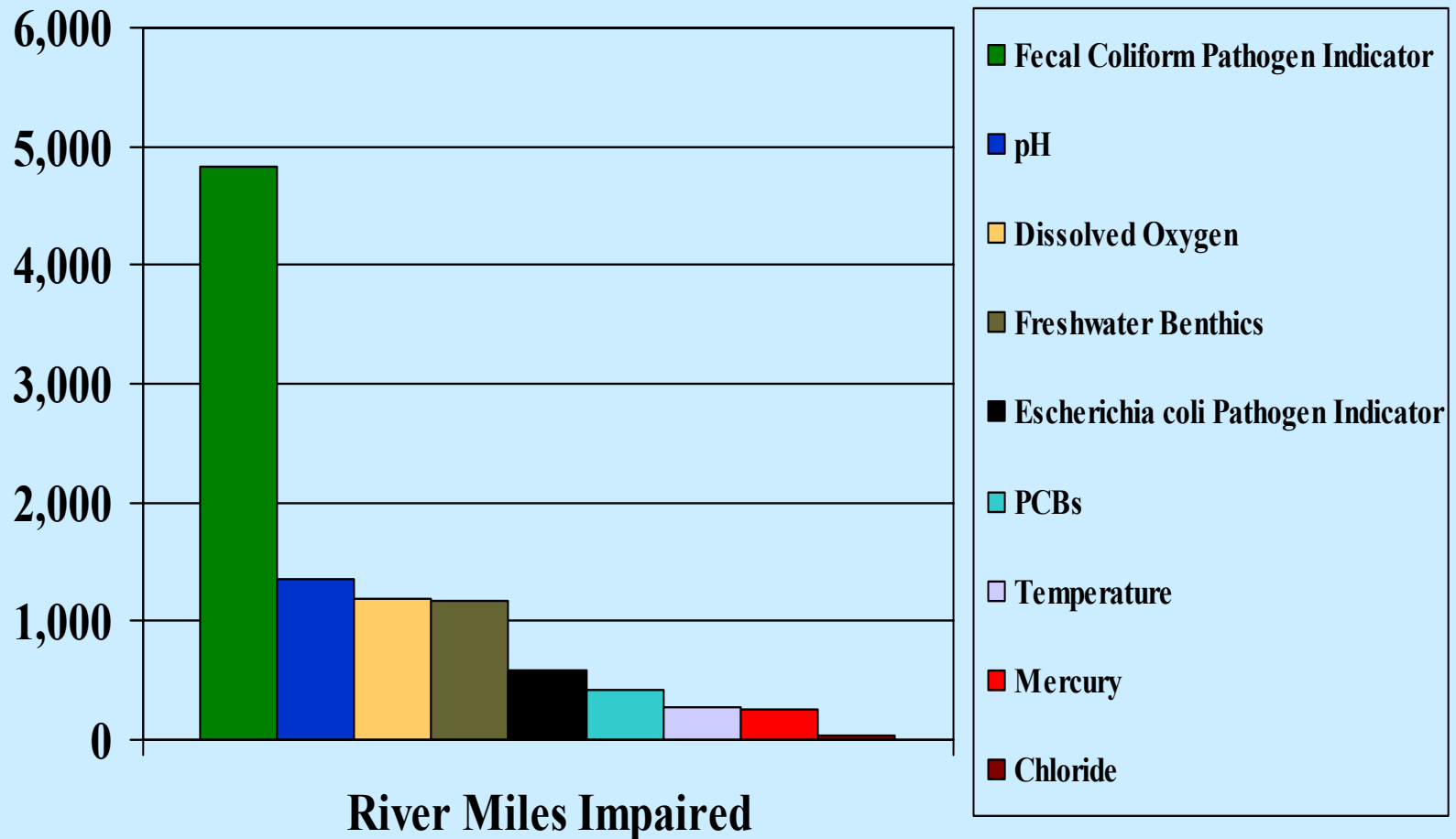
DESIGNATED USE	SUPPORT OF USE DEMONSTRATED BY
Aquatic Life Use	Conventional Pollutants (Dissolved Oxygen, pH, Temp.); Nutrients and toxic contaminants found in sediments , toxics in water column; Biological evaluation.
Fish Consumption Use	Advisories, limiting or restricting consumption (VDH); Exceeding state screening values for toxic pollutants found in fish tissue
Shellfish Consumption Use	Restricted harvesting and marketing of shellfish resources by Div. of Shellfish Sanitation of VDH.
Swimming Use	Conventional Pollutant (Fecal Coliform Bacteria) and/or beach closures issued by VDH
Public Water Supply Use	Closures or advisories by VDH; comparison of data to applicable public water supply standards
Wildlife Use	Aquatic life toxics criteria in water column

OVERALL INDIVIDUAL USE SUPPORT SUMMARY TABLE

Designated Use	Water Body Type	Size Fully Supporting	Total Size Impaired	Size Naturally Impaired	Size with Insufficient Information	Size Not Assessed	Total Size Assessed
Aquatic Life	River (mi)	9,156	3,152	1,358	825	37,405	13,133
	Lakes (acres)	22,729	85,336	61,331	4,880	7,806	112,945
	Estuary (sq. mi.)	682	1,727	28	36	112	2,445
Fishing	River (mi)	4,097	684	0	110	45,646	4,891
	Lakes (acres)	34,093	45,905	0	3,250	37,503	83,248
	Estuary (sq. mi.)	1,682	98	0	7	770	1,780
Shellfishing	River (mi)	-	-	-	-	-	-
	Lakes (acres)	-	-	-	-	-	-
	Estuary (sq. mi.)	2,156	74	0	0	43	2,230
Swimming	River (mi)	4,935	5,008	0	652	39,942	9,943
	Lakes (acres)	100,364	2,691	0	4,528	13,167	107,583
	Estuary (sq. mi.)	775	47	0	7	1,729	829
Public Water Supply	River (mi)	1,413	17	7	0	8,746	1,420
	Lakes (acres)	86,520	110	0	0	7,108	86,740
	Estuary (sq. mi.)	9	0	0	0	0	9
Wildlife	River (mi)	9,984	6	0	184	40,363	9,990
	Lakes (acres)	103,029	530	0	52	17,140	103,611
	Estuary (sq. mi.)	747	97	94	5	1,707	849

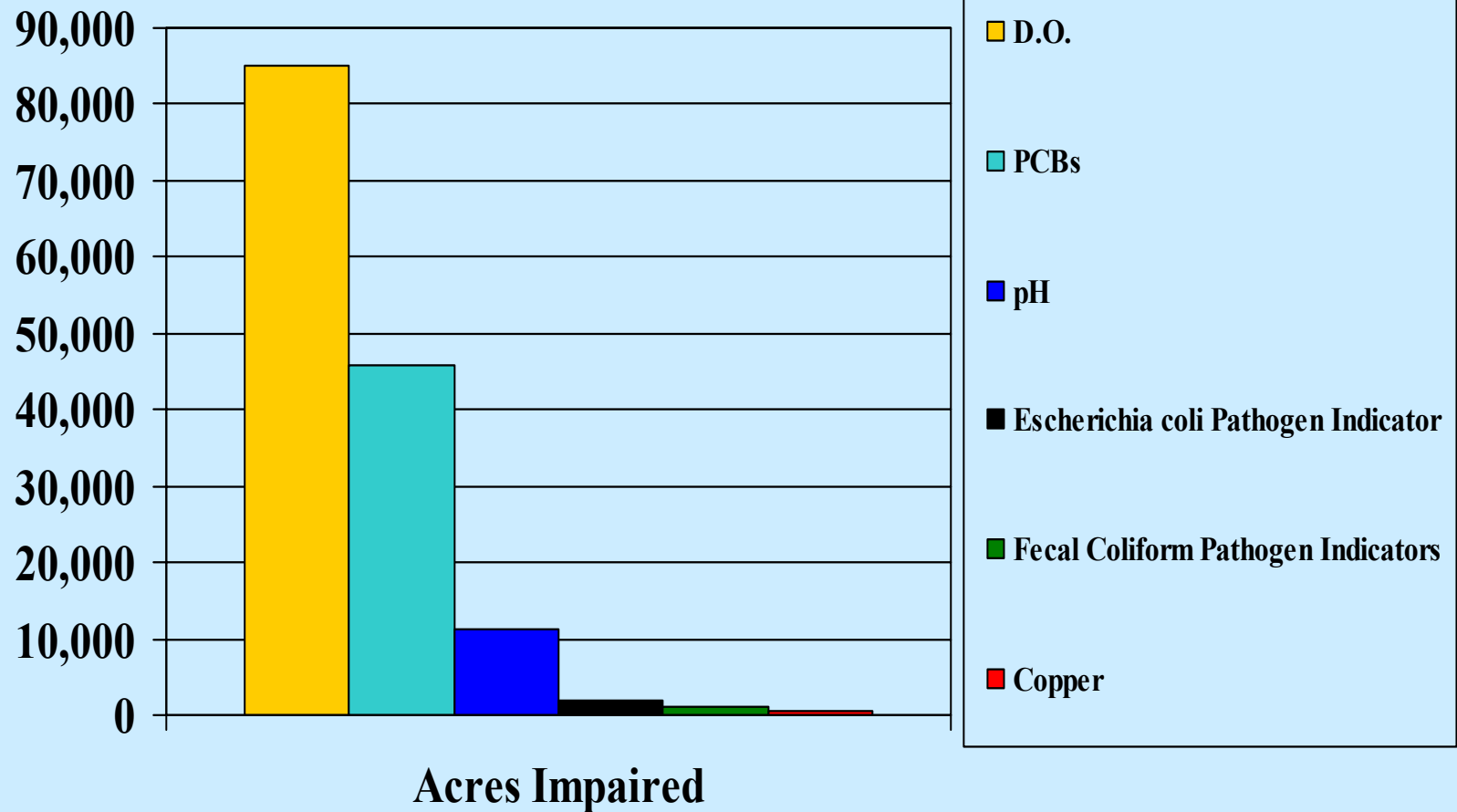
2004

Impairment Causes for Rivers



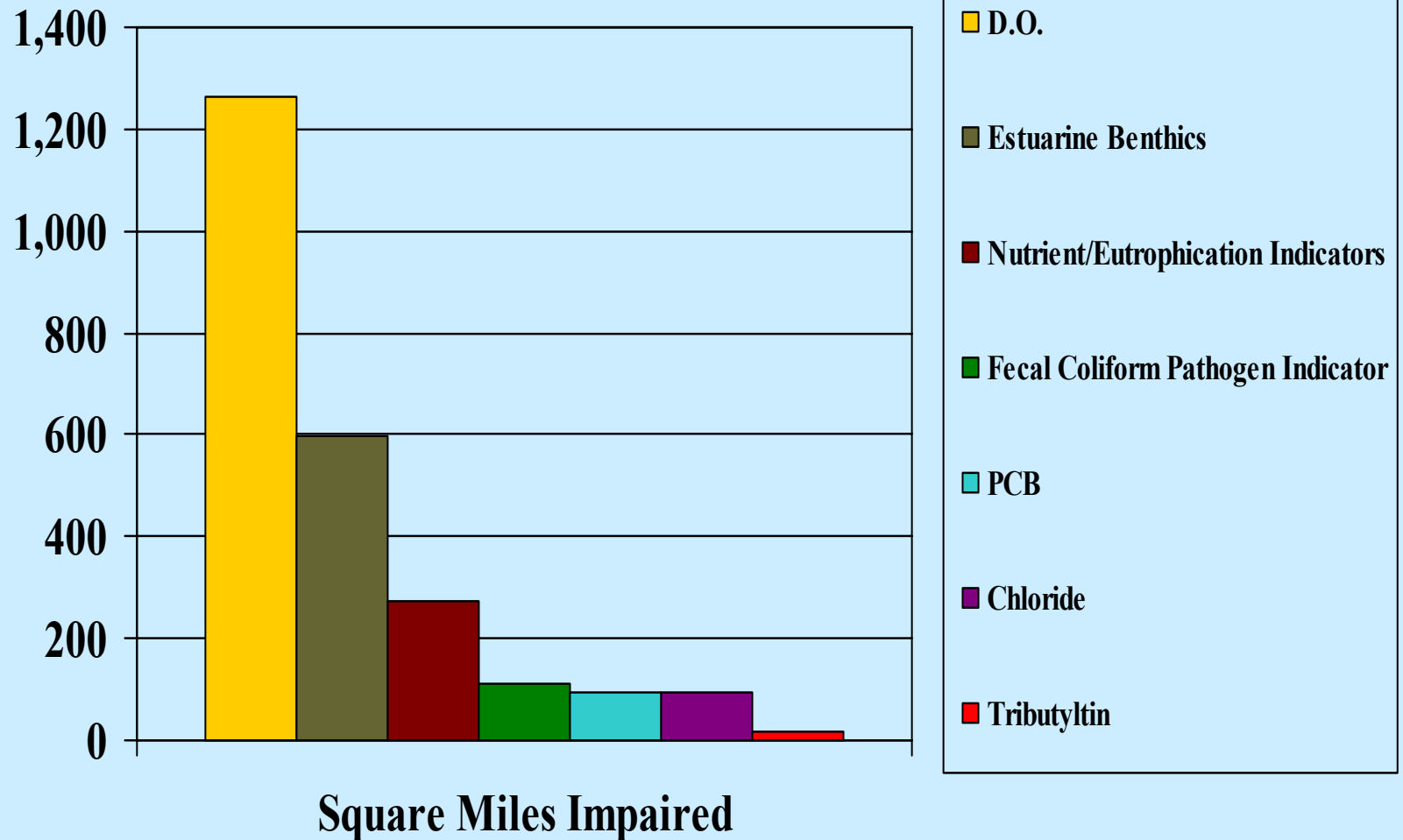
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Impairment Causes for Lakes



2004

Impairment Causes for Estuaries



EPA Integrated List

EPA Assessment Categories for 2004

– Major Change To Assessment Approach

- 1 - Fully Support All Designated Uses
- 2 - Fully Support All Uses Assessed
- 3- Insufficient Data
- 4 - Impaired (No TMDL Needed)
- 5 - Impaired (TMDL May Be Needed)

- Virginia Negotiated With EPA, Developed Subcategories

Integrated List - VA. Subcategories

- Category 1 - Fully Support All Uses
- Category 2 - Fully Support All Uses Assessed
 - Virginia 2A - Support All Monitored Uses
 - Virginia 2B - Waters Of Concern But No Water Quality Standard Exists, Or A Screening Value Was Exceeded

Integrated List - VA. Subcategories

- Category 3 - Insufficient Data
 - Virginia 3A - No Data Available
 - Virginia 3B - Data Available But Insufficient Quantity
 - Virginia 3C - Citizen Monitoring Indicates Problem
 - These Waters Evaluated And Prioritized For Follow-Up Monitoring
 - New DEQ guidance Adopted February 2004
 - FY2005 DEQ Monitoring Plans Will Implement Guidance
 - Virginia 3D - Citizen Monitoring Indicates No Problems

Integrated List - VA. Subcategories

- Category 4 - Impaired TMDL Not Needed
 - Virginia 4A - TMDL Developed and EPA Approved
 - Virginia 4B - Other Regulatory Requirements Will Assure Attainment In Near Future (e.g. NPDES)
 - Virginia 4C - Impairment Caused By Pollution
- Pollution - No Polluting Substance (e.g. flow)
- Pollutant - Polluting Substance (e.g. bacteria)

Integrated List - VA. Subcategories

- Category 5 - Impaired, TMDL May Be Needed
 - Virginia 5A - Non-Shellfish (TMDL Required)
 - Virginia 5B - Shellfish (TMDL Required)
 - Virginia 5C - Naturally Impaired
 - Study needed to determine if wholly or partially impaired
 - Designated use and water quality standard may be changed
 - Virginia 5D - TMDLs Developed For Some Causes
Additional TMDL(s) Needed For Other Causes
 - Virginia 5E - Effluent Limited Waters With
Compliance Schedule After The Next Assessment Date

Assessment Results for Rivers

Degree of Use Support	Water Type	Total Area (Rounded to the Nearest Whole Number)	(%)
Fully Support All Designated Uses (EPA Category 1)	River (mi)	2,197	4.3%
Fully Support Some Uses but Insufficient Data to Assess All Uses (EPA Category 2)	River (mi)	4,128	8.2%
<i>Virginia Subcategory 2A</i>		2,808	
<i>Virginia Subcategory 2B</i>		1,318	
Insufficient Data to Determine if any Uses are Being Met (EPA Category 3)	River (mi)	37,319	73.8%
<i>Virginia Subcategory 3A</i>		36,790	
<i>Virginia Subcategory 3B</i>		157	
<i>Virginia Subcategory 3C</i>		159	
<i>Virginia Subcategory 3D</i>		213	
Waters are Impaired but do not Need a TMDL (EPA Category 4)	River (mi)	593	1.2%
<i>EPA Subcategory 4A</i>		589	
<i>EPA Subcategory 4B</i> *		0	
<i>EPA Subcategory 4C</i>		5	
Waters are Impaired and Need aTMDL (EPA Category 5)	River (mi)	6,301	12.5%
<i>Virginia Subcategory 5A</i>		5,316	
<i>Virginia Subcategory 5B</i>		0	
<i>Virginia Subcategory 5C</i>		922	
<i>Virginia Subcategory 5D</i>		63	
<i>Virginia Subcategory 5E</i> *		0	
Total Size	River (mi)	50,537	100%

Assessment Results for Lakes/Reservoirs

Degree of Use Support	Water Type	Total Area (Rounded to the Nearest Whole Number)	(%)
Fully Support All Designated Uses (EPA Category 1)	Lakes (acres)	10,633	8.8%
Fully Support Some Uses but Insufficient Data to Assess All Uses (EPA Category 2)	Lakes (acres)	8,213	6.8%
<i>Virginia Subcategory 2A</i>		8,108	
<i>Virginia Subcategory 2B</i>		105	
Insufficient Data to Determine if any Uses are Being Met (EPA Category 3)	Lakes (acres)	12,009	9.9%
<i>Virginia Subcategory 3A</i>		7,697	
<i>Virginia Subcategory 3B</i>		0	
<i>Virginia Subcategory 3C</i>		3,636	
<i>Virginia Subcategory 3D</i>		676	
Waters are Impaired but do not Need a TMDL (EPA Category 4)	Lakes (acres)	24,596	20.4%
<i>EPA Subcategory 4A</i>		180	
<i>EPA Subcategory 4B *</i>		0	
<i>EPA Subcategory 4C</i>		24,416	
Waters are Impaired and Need aTMDL (EPA Category 5)	Lakes (acres)	65,300	54.1%
<i>Virginia Subcategory 5A</i>		60,753	
<i>Virginia Subcategory 5B</i>		0	
<i>Virginia Subcategory 5C</i>		4,546	
<i>Virginia Subcategory 5D</i>		0	
<i>Virginia Subcategory 5E *</i>		0	
Total Size	Lakes (acres)	120,751	100%

Assessment Results for Estuarine Waters

Degree of Use Support	Water Type	Total Area (Rounded to the Nearest Whole Number)	(%)
Fully Support All Designated Uses (EPA Category 1)	Estuary (sq. mi.)	303	11.8%
Fully Support Some Uses but Insufficient Data to Assess All Uses (EPA Category 2)	Estuary (sq. mi.)	420	16.4%
<i>Virginia Subcategory 2A</i>		369	
<i>Virginia Subcategory 2B</i>		51	
Insufficient Data to Determine if any Uses are Being Met (EPA Category 3)	Estuary (sq. mi.)	24	0.9%
<i>Virginia Subcategory 3A</i>		24	
<i>Virginia Subcategory 3B</i>		0	
<i>Virginia Subcategory 3C</i>		0	
<i>Virginia Subcategory 3D</i>		0	
Waters are Impaired but do not Need a TMDL (EPA Category 4)	Estuary (sq. mi.)	0	0%
<i>EPA Subcategory 4A</i>		0	
<i>EPA Subcategory 4B</i>		0	
<i>EPA Subcategory 4C</i>		0	
Waters are Impaired and Need aTMDL (EPA Category 5)	Estuary (sq. mi.)	1,810	70.8%
<i>Virginia Subcategory 5A</i>		1,752	
<i>Virginia Subcategory 5B</i>		39	
<i>Virginia Subcategory 5C</i>		19	
<i>Virginia Subcategory 5D</i>		0	
<i>Virginia Subcategory 5E</i>		0	
Total Size	Estuary (sq. mi.)	2,557	100%

New Listings

- 297 New (Category 5a) Impairments in 2004
 - Excluding both shellfish and natural
 - 1,583 miles of Rivers (and Streams)
 - 4,222 acres of Lakes
 - 308 square miles of Estuaries
- New Category 5 Impairments For All Sub-categories Can Be Found In Section 3.3.b Of The Report

Delisting of Waters

- 76 (Category 5) Delist Candidates For EPA Approval
 - 369 miles of Rivers
 - 2,928 acres of Lakes
 - 33 square miles of Estuaries
 - Includes 0.34 square miles of shellfish waters
- 24 (Category 4B) Waters Approved For Delisting In 2003

Steps in TMDL Process

- Place Impaired Waters on 303(d) List due to Water Quality Standards violations
- **Develop TMDL - Total Maximum Daily Load - for Impaired Waters**
- Develop TMDL Implementation Plan
- Implement TMDL Plan
- Remove Waters from 303(d) List when Water Quality Standards achieved

Public Comment

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